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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,383	04/15/2004	Hiromi Matsusaka	P25217	6631
7055	7590	09/25/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			LU, ZHIYU	
			ART UNIT	PAPER NUMBER
			2618	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/824,383	Applicant(s) MATSUSAKA, HIROMI	
	Examiner Zhiyu Lu	Art Unit 2618	

-- Th **MAILING DATE** of this communication appears on the cover sheet with the correspondenc address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1 and 5-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Perets (US2003/0003889).

Regarding claim 1, Perets anticipates a radio reception apparatus comprising:

a reception section (14 of Fig. 1) that receives a signal on a per processing unit basis, said processing unit (18 of Fig. 1) including a known signal pattern (paragraph 0011);

an adjusting section (16, 18 and 20 of Fig. 1) that adjusts a filter filtering the received signal using the known signal pattern in the processing unit (paragraph 0011); and

canceling section (22 of Fig. 1) that cancels an interference component in the processing unit using adjusted filter (paragraph 0011).

Regarding claim 10, Perets anticipates a reception filtering method as explained in response to claim 1 above.

Regarding claim 5, Perets anticipates the limitation of claim 1.

Art Unit: 2618

Perets also anticipates the canceling section includes a plurality of filters having different filter characteristics (Fig. 2); and wherein the adjusting section includes:

a modulation scheme determining section (16 and 18 of Fig. 1) that determines the modulation scheme on a per said processing unit basis using the known signal pattern (paragraph 0011); and

a filter selection section (20 of Fig. 1) that selects one of the plurality of filters according to the determining modulation scheme (paragraphs 0011, 0019, 0024).

Regarding claim 6, Perets anticipates the limitation of claim 1.

Perets also anticipates the canceling section cancels adjacent channel interference or intersymbol interference (paragraphs 0011, 0024).

Regarding claim 7, Perets anticipates the limitation of claim 1.

Perets also anticipates the adjusting section adjusts a filter characteristic of the filter in such a way that a combined characteristic of said filter with a baseband filter at a communicating partner station has a Nyquist characteristic (inherent in paragraph 0011, where the characteristic is fundamental for signal reconstruction).

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Regarding claim 8, Perets anticipates the limitation of claim 1.

Perets also anticipates a communication terminal apparatus having the radio reception apparatus (paragraph 10).

Art Unit: 2618

Regarding claim 9, Perets anticipates the limitation of claim 1.

Perets also anticipates a base station apparatus having the radio reception apparatus (paragraph 10).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perets (US2003/0003889) in view of Haartsen (US2002/0131486).

Regarding claim 2, Perets teaches the limitation of claim 1.

Perets teaches a tap coefficient control section that controls tap coefficients to set to the filter according to the determined modulation scheme (paragraphs 0019-0020).

But, Perets does not expressly disclose the adjusting section includes a modulation scheme determining section that determines a modulation scheme on a per said processing unit basis using the known signal pattern.

Haartsen teaches including a modulation scheme determining section that determines a modulation scheme on a per said processing unit basis using the known signal pattern (paragraph 0036).

Art Unit: 2618

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate a modulation scheme determining section taught by Haartsen into the radio reception apparatus of Perets, in order to provide suitable demodulation scheme to process signal.

3. Claims 3-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perets (US2003/0003889).

Regarding claim 3, Perets teaches the limitation of claim 1.

Perets also teaches the adjusting section includes: a frequency conversion section that performs a frequency analysis of the received signal (14 of Fig. 1, paragraph 0011)

But, Perets does not expressly disclose an interference level detecting section that detects adjacent channel interference from a result of the frequency analysis and determines tap coefficients to set to the filter according to the detection result.

However, Perets teaches a chain section of estimating and analyzing channel interference level (16, 18 and 20 of Fig. 1, paragraphs 0013-0020, 0024).

Jayaraman et al. teach detecting and mitigating adjacent channel interference (paragraphs 0011-0013).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate detecting and mitigating adjacent channel interference taught by Jayaraman et al. into the radio reception apparatus of Perets, in order enhance signal processing quality.

Regarding claim 4, Perets teaches the limitation of claim 1.

Perets teaches a tap coefficient control section that controls tap coefficients to set to the filter based on the measured error and a reception level the received signal (paragraphs 0019-0020).

But, Perets does not expressly disclose a measuring section that measures an error of the received signal that occurs due to a transmission path characteristic on a per said processing unit basis using the known signal pattern.

However, Perets discloses a chain section of estimating and analyzing channel interference (16, 18 and 20 of Fig. 1, paragraphs 0013-0020, 0024).

Jayaraman et al. teach taking error conditions due to transmission path characteristics into detecting and measuring (paragraph 0043).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate considering error measurement due to transmission path characteristics taught by Jayaraman et al. into the radio reception apparatus of Perets, in order enhance signal processing quality.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zhiyu Lu whose telephone number is (571) 272-2837. The examiner can normally be reached on Weekdays: 9AM-5PM.

Art Unit: 2618

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vuong Quochien can be reached on (571) 272-7902. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhiyu Lu
September 14, 2006

21

Quochien B. Vuong 9/18/06
QUOCHIE B. VUONG
PRIMARY EXAMINER